WHAT IS CLAIMED IS:

1. A method of making a plurality of battery plates, the method comprising:

forming a strip of interconnected battery grids from a grid material, each interconnected battery grid including a grid network bordered by at least one frame element, one of the frame elements having a current collector lug, the grid network comprising a plurality of spaced apart grid wire elements, each grid wire element having opposed ends, each opposed end being joined to one of a plurality of nodes to define a plurality of open spaces in the grid network;

deforming at least a portion of the grid wire elements at a position intermediate the opposed ends of the grid wire element such that a first transverse cross-section taken at the position intermediate the opposed ends of the grid wire element differs from a second transverse cross-section taken at one of the opposed ends of the grid wire element;

applying battery paste to the strip; and

cutting the strip to form a plurality of battery plates.

2. The method of claim 1 wherein the step of deforming at least a portion of the grid wire elements comprises:

applying a torsional stress to the grid wire element at the position intermediate the opposed ends of the grid wire element thereby rotating the grid wire element.

3. The method of claim 2 wherein:

the torsional stress is applied to the grid wire element such that the first transverse cross-section is rotated about 20 to about 70 degrees in relation to the second transverse cross-section.

4. The method of claim 1 wherein the step of deforming at least a portion of the grid wire elements comprises:

stamping the grid wire element at the position intermediate the opposed ends of the grid wire element.

5. The method of claim 4 wherein:

the first transverse cross-section substantially has a shape selected from group consisting of diamond, oval, rhomboid, hexagon, and octagon.

6. The method of claim 5 wherein:

the grid network and each of the frames define opposed substantially planar surfaces, and each first transverse cross-section does not extend beyond the planar surfaces.

7. The method of claim 1 wherein:

the grid network and each of the frames define opposed substantially planar surfaces, and each first transverse cross-section does not extend beyond the planar surfaces.

8. The method of claim 1 wherein the step of forming a strip of interconnected battery grids from a grid material comprises:

feeding a continuous strip of the grid material along a linear path aligned with the longitudinal direction of the strip; and

punching grid material out of the strip to form the strip of interconnected battery grids.

9. The method of claim 8 wherein:

the continuous strip of the grid material is formed by a continuous casting process.

10. The method of claim 8 wherein:

the continuous strip of the grid material is formed by a rolling process.

11. The method of claim 1 wherein the step of forming a strip of interconnected battery grids from a grid material comprises:

feeding a continuous strip of the grid material along a linear path aligned with the longitudinal direction of the strip;

piercing apertures in the strip of grid material; and

laterally expanding the strip of grid material to form the strip of interconnected battery grids.

12. The method of claim 1 wherein the step of forming a strip of interconnected battery grids from a grid material comprises:

melting the grid material;

continuously casting the grid material to form a continuous web; and

rolling the web to form the strip of interconnected battery grids.

13. The method of claim 1 wherein the step of forming a strip of interconnected battery grids from a grid material comprises:

melting the grid material; and

continuously casting the grid material to form the strip of interconnected battery grids.

14. The method of claim 1 further comprising the step of deforming at least a portion of the nodes before applying battery paste to the strip.

15. A method of making a plurality of battery grids, the method comprising:

forming a strip of interconnected battery grids from a grid material, each interconnected battery grid including a grid network bordered by at least one frame element, one of the frame elements having a current collector lug, the grid network comprising a plurality of spaced apart grid wire elements, each grid wire element having opposed ends, each opposed end being joined to one of a plurality of nodes to define a plurality of open spaces in the grid network;

deforming at least a portion of the grid wire elements at a position intermediate the opposed ends of the grid wire element such that a first transverse cross-section taken at the position intermediate the opposed ends of the grid wire element differs from a second

transverse cross-section taken at one of the opposed ends of the grid wire element; and

cutting the strip to form a plurality of battery grids.

16. The method of claim 15 wherein the step of deforming at least a portion of the grid wire elements comprises:

applying a torsional stress to the grid wire element at the position intermediate the opposed ends of the grid wire element thereby rotating the grid wire element.

17. The method of claim 15 wherein the step of deforming at least a portion of the grid wire elements comprises:

stamping the grid wire element at the position intermediate the opposed ends of the grid wire element.

18. The method of claim 17 wherein:

the grid network and each of the frames define opposed substantially planar surfaces, and each first

transverse cross-section does not extend beyond the planar surfaces.

19. A method of making a plurality of battery plates, the method comprising:

melting a grid material;

continuously casting the grid material to form a continuous strip;

rolling the strip;

punching grid material out of the strip to form interconnected battery grids, each interconnected battery grid including a grid network bordered by a frame, the frame having a current collector lug, the grid network comprising a plurality of spaced apart grid wire elements, each grid wire element having opposed ends, each opposed end being joined to one of a plurality of nodes to define a plurality of open spaces in the grid network;

stamping at least a portion of the grid wire elements at a position intermediate the opposed ends of the grid wire element such that a first transverse cross-

section taken at the position intermediate the opposed ends of the grid wire element differs from a second transverse cross-section taken at one of the opposed ends of the grid wire element;

applying battery paste to the strip; and

cutting the strip to form a plurality of battery plates.

20. The method of claim 19 wherein:

the first transverse cross-section substantially has a shape selected from group consisting of diamond, oval, rhomboid, hexagon, and octagon.

21. The method of claim 19 wherein:

the grid network and each of the frames define opposed substantially planar surfaces, and each first transverse cross-section does not extend beyond the planar surfaces.

22. A method of extending the cycle life of a lead-acid storage battery having a positive plate, the method comprising:

melting a lead alloy grid material;

continuously casting the grid material to form a continuous strip;

rolling the strip;

punching grid material out of the strip to form interconnected battery grids, each interconnected battery grid including a grid network bordered by a frame, the frame having a current collector lug, the grid network comprising a plurality of spaced apart grid wire elements, each grid wire element having opposed ends, each opposed end being joined to one of a plurality of nodes to define a plurality of open spaces in the grid network;

stamping at least a portion of the grid wire elements at a position intermediate the opposed ends of the grid wire element such that a first transverse cross-section taken at the position intermediate the opposed ends of the grid wire element differs from a second

transverse cross-section taken at one of the opposed ends of the grid wire element;

applying battery paste to the strip; and

cutting the strip to form a plurality of positive plates.

23. The method of claim 22 wherein:

the first transverse cross-section substantially has a shape selected from group consisting of diamond, oval, rhomboid, hexagon, and octagon.

24. The method of claim 22 wherein:

the grid network and each of the frames define opposed substantially planar surfaces, and each first transverse cross-section does not extend beyond the planar surfaces.

25. A method of making a battery grid, the method comprising:

forming a preform battery grid, the preform battery grid including a grid network bordered by at least one

frame element, one of the frame elements having a current collector lug, the grid network comprising a plurality of spaced apart grid wire elements, each grid wire element having opposed ends, each opposed end being joined to one of a plurality of nodes to define a plurality of open spaces in the grid network; and

deforming at least a portion of the grid wire elements of the preform battery grid at a position intermediate the opposed ends of the grid wire element such that a first transverse cross-section taken at the position intermediate the opposed ends of the grid wire element differs from a second transverse cross-section taken at one of the opposed ends of the grid wire element.

26. The method of claim 25 wherein:

the first transverse cross-section substantially has a shape selected from group consisting of diamond, oval, rhomboid, hexagon, and octagon.

27. The method of claim 25 wherein:

the grid network and each of the frames define opposed substantially planar surfaces, and each first transverse cross-section does not extend beyond the planar surfaces.

28. A grid for a battery comprising:

a grid network bordered by at least one frame element, one of the frame elements having a current collector lug,

the grid network comprising a plurality of spaced apart grid wire elements, each grid wire element having opposed ends, each opposed end being joined to one of a plurality of nodes to define a plurality of open spaces,

at least a portion of the grid wire elements having a first transverse cross-section taken at a position intermediate the opposed ends of the grid wire element that differs from a second transverse cross-section taken at one of the opposed ends of the grid wire element.

29. The grid of claim 28 wherein:

the second transverse cross-section is substantially rectangular.

30. The grid of claim 28 wherein:

the first transverse cross-section is a substantially rectangular cross-section rotated about 20 to about 70 degrees in relation to the second transverse cross-section.

31. The grid of claim 30 wherein:

the first transverse cross-section is a substantially rectangular cross-section rotated about 35 to about 55 degrees in relation to the second transverse cross-section.

32. The grid of claim 28 wherein:

the first transverse cross-section substantially has a shape selected from group consisting of diamond, oval, rhomboid, hexagon, and octagon.

33. The grid of claim 28 wherein:

the grid network and each of the frames define opposed substantially planar surfaces, and each first transverse cross-section does not extend beyond the planar surfaces.

34. The grid of claim 33 wherein:

the first transverse cross-section is substantially a diamond shape.

35. The grid of claim 33 wherein:

the first transverse cross-section is substantially a hexagon shape.

36. The grid of claim 33 wherein:

the first transverse cross-section is substantially an octagon shape.

37. The grid of claim 33 wherein:

the first transverse cross-section is substantially an oval shape.

38. The grid of claim 33 wherein:

the first transverse cross-section is substantially a rhomboid shape.

add A3

add B1